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Comparing the current and long-term career motivations of artists and business-people: Is everyone intrinsic in the end?

Kennon M. Sheldon[1,2] · **Mike Corcoran**[1]

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Abstract

We considered the interplay of intrinsic and external career motivation by comparing two relevant vocational groups: artists and businesspersons. In Study 1 business students, relative to art students, reported more external and less intrinsic motivations for their current majors, and aspired more to money, status, and appearance in the future. However, the two groups were no different on intrinsic future aspirations for growth, connection, and contribution. In Study 2 business students again had more external and less intrinsic career motivation. However, they were again no different in their intrinsic future aspirations, and also, were no different from art students in their longer-term career motivations. Study 3 used a sample of mTurk workers and replicated the basic pattern of three-way interactions. Physical scientists/science students, also examined in all studies, tended to have current and longer-term motivations lying midway between the art and business groups. Consistent with organismic perspectives on human nature, it appears that everyone aspires for a meaningful and enjoyable future; however, business types may put off these motivations in the present, whereas artistic types pursue them directly. This lends support to the notion that despite motivational differences in the present, everyone desires to be intrinsic in the end.

Keywords Career motivation · Self-determination theory · Long-term motivation

Introduction

The stereotypes of the "starving artist" and the "wealthy businessman," and the contrast between these two modes of living, are as old as civilization itself (Barron 1963; Elias and Berg-Cross 2009). According to the stereotypes, artists value self-exploration and self-expression, viewing these as more important than the search for wealth and profit. And indeed, very few artists make a good monetary living; but for many artists the trade-off is worth it, because they tend to lead interesting and fulfilling lives (Elias and Berg-Cross 2009). In contrast, the stereotype is reversed for business people, for whom the search for money and profit may trump the search for aesthetics and self-expression, and of course, business and commercial activities *do* pay quite well, on average in comparison.

Distinguishing intrinsic and external career motivations

These preliminary observations suggest that artists and business-people may differ in the *motivations* they bring to their careers. Specifically, they may differ in their degree of *intrinsic* versus *extrinsic* motivation. The distinction between intrinsic and external motivation has long been central within Self-determination theory (SDT; Deci and Ryan 1985; Ryan and Deci 2017), and thus we made use of SDT in the current research. Below, we review relevant aspects of SDT.

SDT began with the discovery of the "intrinsic motivation undermining effect." Early research showed that receiving a monetary reward after doing a previously enjoyable activity can reduce people's spontaneous desire (intrinsic motivation) to continue doing the activity (Deci 1972), as observed during a free choice period following administration of the reward. Modern SDT (Ryan and Deci 2017) says that there are a variety of types of motivations that exist on a continuum ranging from external motivation ("I do it only for the reward;" no internalization) to introjected motivation ("I do it to avoid guilt"; some internalization) to identified

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✉ Kennon M. Sheldon
sheldonk@missouri.edu

[1] Department of Psychological Sciences, University of Missouri, Columbia, MO, USA

[2] National Research University Higher School of Economics, Moscow, Russia

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motivation ("I value it, even if I don't like to do it"; full internalization) to intrinsic motivation ("I do it because I like to do it"; automatically internal). Intrinsic motivation and identified are considered to be "autonomous motivations," and external and introjected are considered to be "controlled" motivations. Because they lie at opposite ends of a continuum, external and intrinsic motivation tend to be negatively correlated when assessed by self-report.

What causes the undermining effect, in which intrinsic motivation is reduced or lost altogether? SDT postulates that introducing monetary rewards can cause intrinsic motivations to be replaced by external motivations, particularly when people "cognitively evaluate" the rewards as attempts to control or coerce them (Deci and Ryan 1985). When people feel they are being controlled, their need for behavioral autonomy is thwarted. This in turn spoils the intrinsic motivation. This analysis suggests that there are potential conflicts between external and intrinsic motivations, which people must presumably work to reconcile (Li et al. 2015). Failing such reconciliation, people with strong external reasons for acting may eventually lose whatever intrinsic motivation they started with. Stated another way, although it is possible for both intrinsic and external motivation to be present at the same time (Amabile 1996; Amabile et al. 1994), the combination may be unstable in the long run, especially when external exceeds intrinsic motivation.

Prior research comparing artists and businesspersons

Are artists really more intrinsically motivated and less externally motivated than businesspeople, and vice versa, as intuition might suggest? There is not much research directly comparing artists and business persons. Instead, the literature has focused on contrasting artists and scientists, particularly within the classic creativity and personality literature (Barron 1963, 1969; Cattell 1963; Sheldon 1995) and in the gifted cognition and exceptional performance literature (Feist 1991; Torrance 1988).

Still, there are a few published studies that are indirectly consistent with our motivational conjectures. Amabile et al. (1994) found that art students and art professionals scored higher in intrinsic motivation and lower in extrinsic motivation (as measured by the Work Preference Inventory), compared to population norms. However, these researchers did not study business students and business professionals, and thus they made no direct comparison between artists and businesspersons. Skatova and Ferguson (2014) found that the career choices of arts and humanities majors were driven more by interests and less by future career concerns, although these researchers also did not study business students. Studies of business students per se reveal a strong focus on career advancement and self-sufficiency (Basham and Buchanan 2009), and little interest in knowledge for its own sake (Buchanan et al. 2007). Similarly, Collins (1996) found that business students have less "intrinsic intellectual motivation" than liberal arts students, and Maliszewski et al. (2014) found that business students have more power motivation and less helping motivation than non-business students.

It should also be mentioned that in the vocational psychology literature, artists and business have been contrasted by way of the Holland system, in particular via the distinction between Artistic and Enterprising types. Holland (1997) described the differences between these two types, in terms of their interests, attitudes, and experiences, in ways that are consistent with the stereotypes discussed above. In terms of personality traits, enterprising styles are positively related with extraversion and inversely related to honesty-humility; on the other hand, artistic styles are positively related to openness and honesty-humility (Larson et al. 2002).

Again, however, no basic research to date has directly contrasted the *motivations* of the two groups, using SDT. Thus, the initial aim of our investigation was to compare the career motivations of art and business students, using measures taken from contemporary SDT. Our first hypothesis was that artists' career motivation would indeed be more intrinsic ("I am doing it because it is interesting, or enjoyable"), whereas business student's career motivation is indeed more external ("I am doing it because I have to, or for the money"). Recall that SDT says that there are several intermediate forms of motivation lying between the two prototypical extremes of external and intrinsic motivation (Sheldon et al. 2017). In this article we do not consider these intermediate forms because we wanted to focus only on the contrast between the two extremes of motivation, which best represent the comparison between compensation-focused versus experience-focused career motivations. As control variables we also compared the two groups as to their current incomes, and their future income expectancies, reasoning that these likely differ between the two groups and might account for any observed motivational differences.

Considering longer-term motivations

However, we aimed to do more than merely confirm common intuitions regarding the current motivations of artists and businesspeople. We also hoped to test an important theoretical premise from SDT: the idea that human beings are inherently learning- and growth-oriented, even if they are not expressing such potentials at the present time (Deci and Ryan 1990; Ryan and Deci 2017; Sheldon 2014). If this is true then people of all vocations should desire higher-quality motivation and greater happiness in the future, even if that is not their current focus.

Specific theoretical and empirical background for this idea is provided by Self-determination theory's "organismic integration" mini-theory (Deci and Ryan 1990). According to this mini-theory and its supporting data, humans have a universal need to internalize their own external motivations over time, coming to better own and integrate such motivations into their sense of self. And in fact, they do tend to accomplish this, such that older individuals pursue social duties (Sheldon et al. 2005), personal goals (Sheldon 2009), and social roles (Sheldon and Kasser 2001) for more internalized reasons than do younger individuals. From this perspective, business students may not be content to assume that their motivations will remain external in the long run; instead they may believe that they will eventually internalize or transform such goals. Again, such a finding would support the SDT's organismic assumption that humans remain growth- and health-oriented at heart, even though they may not currently function in this way.

To test this, we assessed participant's *longer-term* aspirations and motivations, as well as their *current* career motivations. Making this distinction allowed us to analyze possible discrepancies or conflicts between the two temporal frames (Sheldon and Kasser 1995; Vallerand 1997). It also allowed us to evaluate the possibility that, although people might be quite extrinsically motivated in the present, they might nevertheless view this condition as temporary, or as ultimately serving or leading to intrinsic motivations. Business students might be engaged in just such a psychological trade-off, believing that "intrinsic motivation must wait," while at the same time believing that "it will come eventually." If this is so, then whereas business students may have less intrinsic motivation than artists in their current career motivations (as intuition suggests), they might be equally intrinsic in their longer-term, more ultimate motivations (disconfirming the intuition). This was our second study hypothesis.

Study 1

In Study 1 we measured participants' current intrinsic and external career motivations. We also measured participants' longer-term motivations by measuring their broad future aspirations. The aspirations index (A.I.; Kasser and Ryan 1993, 1996) assesses the importance of a range of guiding principles for the future and is typically broken down into two types of goal-content: Intrinsic aspirations (growth, intimacy, and helping) and extrinsic aspirations (money, image, and appearance). The theoretical distinction between two type of aspiration content, intrinsic and extrinsic, is supported empirically by factor analyses (Kasser 2002) and by findings that both facets of motivation (i.e., the content of goals, and the reasons why people pursue goals) independently predict many different adjustment-related outcomes (Niemiec et al. 2009; Sheldon et al. 2004).

Notably, the aspirations index addresses the "what" of motivation, not the "why" of motivation (Ryan and Deci 2000; Ryan et al. 1996; Sheldon et al. 2004). That is, it considers the content or target of future goals, rather than the motivations or reasons behind those goals. What these two conceptions of motivation share in common is that within both systems, the intrinsic type is considered to be more organismically congruent, and psychologically healthier, than the extrinsic type (Ryan and Deci 2017). That is, it is more conducive to well-being, adaptation, and growth, because it better meets basic psychological needs (Sheldon and Kasser 1995). In contrast, the extrinsic type of motivation or aspiration can be more psychologically problematic, both for those impelled by such motivations and for their associates. We reasoned that the AI was worth using in our studies because (a) it provided a ready-made means of assessing participants' longer-term motivations, separate from their current career motivations, and (b) the AI assesses the organismic "quality" of motivation, in a way that is similar to the career motivation measure, as explained above.

In Study 1 we also included another vocational group to provide an independent comparison group: physical scientists. As mentioned earlier, personality psychologists have traditionally focused on the artist versus scientist comparison, typically attempting to identify emotional and cognitive differences between these natural groups (Barron 1969; Sheldon 1995). In contrast, the current studies focused mainly on the artist versus business comparison (Bishop et al. 2000), attempting to identify motivational differences between the two groups. Including physical science students in the current study allowed us fill out the picture, and to connect our research to past research comparing artists and scientists. It also provided us with an independent comparison group for contextualizing any motivational differences found between art and business students. For example, is it that art students have elevated intrinsic motivation compared to both business and science students, or is it that business students have elevated external motivation compared to both art and science students?

Our third study hypothesis was that physical scientists would tend to occupy an intermediate motivational position between artists and scientists. Like artists, scientists are pursuing knowledge and exploring interests, although they are not as directly focused on emotion and self-expression. But like businesspeople, scientists have reasonable expectations for achieving a good-paying career, although their career activities are not as directly focused on profit and financial gain (Chandra 1965). Scientists may thus evidence both strong intrinsic and strong external motivations, because they have to make neither the trade-off of forsaking money for intrinsic motivation that artists may make nor the trade-off of forsaking intrinsic motivation for money that businesspeople may make.

In sum, our first study hypothesis was that art students and business students would differ on their current career motivation, with artists indicating more intrinsic and less external career motivation. This would directly support common intuitions, using a methodology not heretofore employed. Our second study hypothesis was that this difference would be affected by the time-frame of the motivation assessment, such that the difference would be eliminated or reduced at the longer-term time frame. This would support our organismic-theoretical supposition that everybody is "intrinsic in the end," that is, oriented towards intrinsic more than extrinsic values and motivations in the long run, even if they are not so oriented in the present (Sheldon et al. 2003). Our third study hypothesis was that physical science students would be midway between the artist and business students.

Method

Participants and procedure

Participants were 809 introductory psychology students, 439 men and 370 women, at the University of Missouri. They took part in an on-line departmental pre-test survey either in fall of 2014 or the fall of 2016, for which they received two units of research participation credit. The data from the two semesters were added together in order to boost the (limited) number of fine art students in the sample.

Measures

Academic major

Early in the survey participants read "What is your current (or most likely) major?" Five hundred and four selected "Business (ex. Accounting, Finance, Marketing)," 246 selected "Physical Sciences (ex. Biology, Chemistry)," and 59 selected "Fine arts (ex. Drawing, Sculpture, Theater, Dance)." Students selecting other majors were excluded from the analyses. Although American college students can delay selecting a major until later in their academic careers, most students have a declared major or at least a strong preference during the first year.

Career motivation

After making their selection, participants read "Past research suggests that people may be motivated to do something for many different reasons. In this task, rate the following reasons for why you have chosen your current (or most likely) major. Of course, people can have more than one reason for doing something, so you might give more than one high rating." The two reasons relevant to the current article were "Because I have to. Circumstances necessitate it" (external motivation) and "Because I enjoy it. I'm interested and engaged" (intrinsic motivation). These two items refer to prototypical features of their respective types (Sheldon et al. 2017), namely, the feeling of having to do "X" versus the feeling of really wanting to do "X" (Ryan and Deci 2017). Items were presented with a 1 (not at all for this reason) to 5 (very much for this reason) scale.

Future aspirations

Later in the survey participants completed the short form of the Aspirations Index (Sheldon and Kasser 2008; Sheldon and Krieger 2014). Participants read "The questions below ask you about aspirations you may have for the future. For each question, select a response that indicates how important it is to you. How important is it that the goal be attained in the future?" The three extrinsic responses were "projecting an appealing and attractive image," "being known and admired by many people," and "achieving affluence and financial success." The three intrinsic responses were "having close personal relationships," "helping those who need help," and "Attaining self-acceptance and personal growth." A 1 (not at all important) to 5 (very important) scale was used. A principal components analysis of the six scores supported the two-facet structure, with the three intrinsic aspirations loading 0.75 or above on one component, and the three extrinsic aspirations loading 0.75 or above on the second component (with no cross-loadings > 0.30). Intrinsic aspiration and extrinsic aspiration scores were computed by averaging the three relevant ratings (alphas = 0.70 and 0.66, respectively).

Income and income expectancies

As mentioned above, the expected group differences in motivation could perhaps be accounted for by simpler factors, such as expected income or expected future income. Thus, as supplementary variables, we measured participants' current income, current discretionary spending money, and expected income at age 35. We expected business students to expect the highest future income and art students the least; we had no hypotheses concerning current income or spending money. Current income was measured with the instructions "What is your household income? If you are independent of your parents (i.e. receive no financial support from them) provide your own estimated household income." Participants selected an income category, which was converted to a continuous scale using the midpoint of each category (i.e., those selecting the "$15,000 to $50,000" category received an income score of \$32,500). Weekly discretionary spending money was also measured, defined as “money that isn’t required for rent, payments, and your basic needs, but money that you might save, or use to buy a treat or give or show ticket or give to charity.” Expected future income was assessed by the item: “in your current career plan, about how much income do you expect to be making, when you are 35 years old?” Participants again selected a category which was converted to a continuous scale, for ease of presentation.

Results

Table 1 contains the means and correlations for major study variables. Table 2 presents the means for the four motivation variables split by vocational group, along with coefficients indicating significant pairwise group mean differences. One-way ANOVAs revealed significant omnibus differences for all four variables (for intrinsic motivation, F (2,806) = 21.7, $p < 0.001$, $\eta_p^2 = 0.051$; for external motivation, F (2,806) = 3.63, $p = 0.027$, $\eta_p^2 = 0.009$; for intrinsic future aspirations, F (2,806) = 4.93, $p = 0.007$, $\eta_p^2 = 0.012$; for extrinsic aspirations, F (2,806) = 7.65, $p = 0.001$, $\eta_p^2 = 0.019$). Supporting our first study hypothesis, art students had the highest current intrinsic motivation scores and business students the lowest, with science students in the middle. As indicated by the subscripts in Table 2, all three means differed from each other. Art students also had the lowest level of external motivation, and business students the highest, although the business student mean was not significantly different from the science student mean. Turning to the future aspiration variables: art students had the lowest level of extrinsic aspirations and business students had the highest with the scientists in the middle, although the business and science students did not differ. The art and business groups did not differ on intrinsic aspirations, consistent with our second hypothesis; the business and science groups did not differ on this variable.

Table 2 Study 1: variable means and standard deviations split by group

Variable	Art	Business	Science
Current intrinsic motivation	4.64_c (0.80)	4.03_a (0.94)	4.39_b (0.84)
Current external motivation	1.66_a (1.06)	2.09_b (1.24)	1.96_{ab} (1.24)
Future intrinsic aspirations	4.39_{ab} (0.66)	4.32_a (0.67)	4.47_b (0.57)
Future extrinsic aspirations	3.69_a (0.80)	4.05_b (0.72)	3.90_a (0.84)

Means not sharing subscripts are significantly different from each other at $p < 0.05$

Formally testing our second hypothesis required us to compare the intrinsic motivation scores of business and art students, in the present day as compared to the long-term future. This was feasible because present and future motivations were both measured on the same 5-point scale ranging from “not at all” to “very” (see Table 2 for the means). We ran a 3 (Student group: Art, business, or science) × 2 (Type of motivation: Intrinsic or extrinsic) × 2 (Time frame: Present or future) ANOVA, with repeated measures on the latter two factors. We expected to find a significant 3-way interaction between the three factors, making no predictions concerning main effects of 2-way interactions. The predicted omnibus 3-way interaction was indeed significant [$F(2,806) = 3.53$, $p = 0.03$, $\eta_p^2 = 0.009$) supporting our second hypothesis. The pattern of means conformed to expectations, with the difference between the artist and business groups becoming less over time for intrinsic motivations, with no such difference for extrinsic motivations. The 3-way interaction became greater in magnitude when comparing just art and business students excluding the science students [$F(1,561) = 6.63$, $p = 0.01$, $\eta_p^2 = 0.012$], indicating that this contrast largely accounts for the effect. Figure 1 graphs the intrinsic motivation differences in the present and future, only for the artists and

Table 1 Study 1: descriptive statistics and correlations

Variable	M	SD	1	2	3	4	5	6	7
1. Current intrinsic motivation	4.18	0.92		− 0.28	0.23	0.08	− 0.01	− 0.01	0.11
2. Current external motivation	2.02	1.23			− 0.16	0.02	− 0.04	− 0.02	0.03
3. Future Intrinsic Aspirations	4.37	0.65				0.41	0.06	− 0.02	0.07
4. Future extrinsic aspirations	3.98	0.77					0.16	0.00	0.10
5. Household income	\$106K	\$67K						0.18	0.23
6. Discretionary income	\$27	\$20							0.12
7. Expected income	\$296K	\$339K							

For correlations ≥ 0.07, $p < 0.05$. For correlations ≥ 0.09, $p < 0.01$

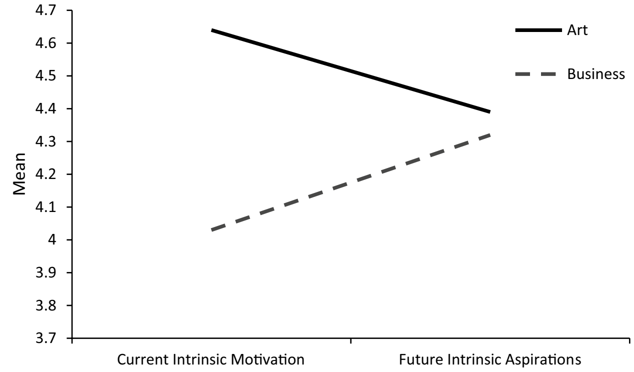

Fig. 1 Study 1 current intrinsic motivation and future intrinsic aspirations means for art and business majors

businesspeople (scientists are omitted for simplicity and because we had no hypotheses concerning them).

We then focused on the two intrinsic motivation scores only, conducting a 3 (student group: Art, business, or science) × 2 (time frame: present or future) ANOVA. Here we found the expected 2-way interaction between student group and time frame [$F(2,806) = 9.87$, $p < 0.001$, $\eta_p^2 = 0.024$], reflecting the contrast between the large group differences in current intrinsic motivation and the absence of group differences in future intrinsic aspirations. Again, the 2-way interaction was greater in magnitude when comparing just art and business students [$F(1,561) = 15.38$, $p < 0.001$, $\eta_p^2 = 0.027$]. For the reader's information, in the full model there were also significant main effects of time frame (future aspirations were rated higher than current motivations, on average) and of motivation type (intrinsic motivations were rated higher than extrinsic motivations). There was no overall main effect of student group (art, business, or science) upon motivation. Full results can be found in the supplementary information.

Finally, we conducted three different ANOVAs on the three income variables, finding a significant main effect of vocational group for current household income [$F(2,806) = 10.83$, $p < 0.001$, $\eta_p^2 = 0.026$] and expected future income ($F(2,806) = 28.19$, $p < 0.001$, $\eta_p^2 = 0.065$), but no differences concerning discretionary spending money ($p > 0.45$). The two significant effects reflect an ordering such that business students have the highest income now and expect the most in the future, with science students below them, and art students below them. However, ANCOVAs controlling for these differences did not change the significant pattern of effects already reported, thus the income differences cannot account for the observed motivation and aspiration differences.

Brief discussion

Study 1 provided good initial support for our two hypotheses. Relative to the business student group, the art student group evidenced more intrinsic motivation and less external motivation, and also less extrinsic aspirations. This supports, for the first time, the common intuition that artists are doing it "for the interest value" whereas business students are doing it "for the money"—that is, members of these two groups have different goals and aims which causes differences in the motivation that guides their behavior. Still, the two groups did not differ on intrinsic aspirations, i.e., in the long-term importance they place on growth, community and intimacy. This supports the organismic-theoretical idea that the underlying longer-term or more ultimate motivation of business students may not be so different from that of artists; they envision a future in which they have grown as people, and experience intimacy and strong community connections.

Study 2

One limitation of Study 1 is that we measured long-term motivations using a measure of future aspirations (Kasser 2002). This approach makes some sense given the Aspiration Index's focus on long-term values and guiding principles. However, the approach is limited because there is a potential confound between time frame (current/future) and construct type (motives/aspirations). Relatedly, Study 1 was also limited because the aspirations measure does not make direct reference to participant's career goals and ambitions, instead referring to a more generic set of aspirations. In Study 2 we endeavored to develop a methodology which would overcome both limitations. Specifically, we developed a longer-term motivation measure which referred directly to career motivation rather than generic motivation, and which used the same motivational assessment methodology at both time frames. The measure was designed to assess the longer-term motivations that that may underlie current motivations. However, in Study 2 we also evaluated the replicability of the Study 1 aspiration findings, asking again whether business students have equally intrinsic future aspirations as art students.

As further improvements in Study 2, we also directly solicited the three types of student to participate in the study, in constructing the study invitation. We reasoned that this would be an improvement on Study 1, which based the vocational classification on student's responses to a single question given during departmental screening surveys. In Study 2, students would have to explicitly select themselves into the study. We also improved our specific measurement of intrinsic and external motivation, going beyond the single item approach of Study 1. Study 2's external motivation items directly referenced money as an important external motivation.

Method

Participants and procedure

Participants were 189 introductory psychology students at the University of Missouri, who provided complete information on an on-line survey on "career motivation." Prospective participants were asked to take the survey if they were fine art majors, business majors, or physical science majors, and received research participation credit for their introductory psychology course. The final sample, collected over three semesters, consisted of 73 business students, 43 art students, and 73 science students. Within the survey, participants first completed career motivation measures, then long-term motivation measures.

Measures

Goal assessment

In Study 2 participants were first asked to free-list three goals relevant to their major, defined as "things you are trying to do or accomplish as you work towards establishing a career in your field." We then assessed the motivation for these career-goals by asking four questions concerning each of the three goals (12 items total), based on the procedures of Sheldon and Elliot (1999). For each of the three goals, participants rated on a 5-point likert scale ranging from 1 "strongly disagree" to 5 "strongly agree" the extent "you are striving for this goal because of the enjoyment or stimulation that goal provides you" (IM1) and also, the extent "you are doing this goal because it is enjoyable or interesting" (IM2). The six (2 ratings × 3 goals) ratings were combined to form a measure of intrinsic current career motivation (alpha = 0.84). For each goal participants also rated "the extent you are striving for this goal because of the rewards (such as the high income, luxuries, or status) that it may produce" (EM1) and "the extent you are doing this goal to get some external reward" (EM2). The six ratings were combined to form a measure of external career motivation (alpha = 0.83).

Long-term career motivation

Again, this measure was designed to question participants about the longer-term motivations undergirding their current career motivations. However, we did not wish to assess such "meta-motivations" in the absence of reasonably strong current career motivation. Thus, we built branch-points into the on-line survey so that only when participants answered "3" or more on item IM2 or on item EM2 were they taken to a new screen where they read: "you gave a rating of 3, 4, or 5 on ("to get some external reward" / "because it is enjoyable or interesting"), as a reason for pursuing your goal, "X" (X being the goal-text they had previously typed in, which was piped into the long-term motivation question). Now we'd like to know the reasons *behind* that reason. Why do you want to get (external rewards/interest and enjoyment) by pursuing this goal?"

For the external long-term motivation item, the two response options were "to get even greater external rewards, later" and "to get access to more enjoyable experiences, later" (both administered with a 1–5 scale ranging from 1 "not at all" to 3 "somewhat" to 5 "very much" for this reason). Here, participants could indicate that a strong external career motivation was really about getting intrinsic experiences, later on; or they could affirm that external motivations will continue to have an external focus in the future. For the intrinsic motivation long-term motivation item, the response options were "to get some external reward, later" and "to get access to even more enjoyable experiences, later." Here, participants could indicate that a strong intrinsic career motivation was really about getting external rewards, later on; or they could affirm that intrinsic motivations will continue to have an intrinsic focus in the future. We averaged across the available items to derive aggregate long-term intrinsic and long-term external motivation scores (alphas = 0.89 and 0.86; Ns were unchanged for this measure because all participants made at least some long-term motivation ratings).

Results

Table 3 contains descriptive statistics and correlations for major study variables. One-way ANOVAs revealed significant omnibus differences for all six variables (for intrinsic motivation, $F(2,186) = 4.09$, $p = 0.018$, $\eta_p^2 = 0.042$; for external motivation, $F(2,186) = 8.35$, $p = 0.001$, $\eta_p^2 = 0.082$; for intrinsic future aspirations, $F(2,186) = 4.66$, $p = 0.011$, $\eta_p^2 = 0.048$; for extrinsic future aspirations, $F(2,186) = 2.21$, $p = 0.112$, $\eta_p^2 = 0.023$; for long-term intrinsic motivation, $F(2, 186) = 1.32$, $p = 0.269$, $\eta_p^2 = 0.014$; for long-term external motivation, $F(2,186) = 1.52$, $p = 0.221$, $\eta_p^2 = 0.016$). Table 4 contains the means for the six motivation variables split by vocational group, and also contains coefficients indicating significant group mean differences.

Table 3 Study 2: descriptive statistics and correlations

Variable	M	SD	1	2	3	4	5	6
1.Current intrinsic motivation	3.88	0.86		− 0.06	0.33	0.22	0.37	0.21
2.Current external motivation	3.35	0.87			0.06	0.36	0.19	0.53
3. Future intrinsic aspirations	4.28	0.67				0.43	0.50	0.28
4. Future extrinsic aspirations	3.81	0.78					0.34	0.40
5.Long-term intrinsic motivation	4.08	0.79						0.57
6.Long-term external motivation	3.64	0.96						

Correlations greater than 0.13 are significant at $p < 0.05$; correlations greater than 0.18 are significant at $p < 0.01$

Table 4 Study 2: variable means and standard deviations split by group

Variable	Art (N = 43)	Business (N = 73)	Science (N = 73)
Current intrinsic motivation	4.01_b (0.93)	3.66_a (0.84)	4.03_b (0.80)
Current external motivation	3.14_a (0.97)	3.67_b (0.74)	3.17_a (0.86)
Future intrinsic aspirations	4.33_a (0.68)	4.10_a (0.71)	4.42_a (0.58)
Future extrinsic aspirations	3.60_a (0.81)	3.86_a (0.77)	3.90_a (0.75)
Long-term intrinsic motivation	4.15_a (0.96)	3.96_a (0.77)	4.15_a (0.69)
Long-term external motivation	3.63_a (1.02)	3.78_a (0.81)	3.51_a (1.06)

Means not sharing subscripts are significantly different from each other at $p < 0.05$

Supporting our first hypothesis, the art students were again significantly higher than business students in current intrinsic motivation and were also lower in external motivation. In this sample, science students were equivalent to art students in both types of current motivation. As expected by our second hypothesis, and consistent with the Study 1 findings, there was again no significant difference between art and business students on intrinsic aspirations; in fact, the three vocational groups were equal in both types of future aspirations. Also, there were no pairwise differences between the three groups on the intrinsic and extrinsic long-term motivation variables newly created for this study.

To again formally test our second hypothesis, we conducted two different 3 (Student group: Art, business, or science) × 2 (type of motivation: intrinsic or extrinsic) × 2 (time frame: present or future) ANOVAs on the three groups, with repeated measures on the latter two factors. As in Study 1 the first analysis involving future aspirations uncovered a significant 3-way interaction ($F(2,186) = 3.90$, $p = 0.022$, $\eta_p^2 = 0.040$) although this interaction did not reach significance when the artist and business groups were directly compared, $F(1,114) = 2.50$, $p = 0.117$, $\eta_p^2 = 0.021$). Still, our key hypothesis was supported, in that art and business students did not differ in their levels of intrinsic future aspirations, despite differing on current intrinsic motivation. Turning to the second analysis using the longer-term motivation variables, the pattern as emerged as before: For the three-way interaction, $F(2,186) = 3.28$, $p = 0.040$, $\eta_p^2 = 0.034$. This coefficient was larger when just the art and business students were compared $F(1,114) = 5.74$, $p = 0.018$, $\eta_p^2 = 0.048$. Figure 2 graphs the intrinsic motivation differences for artists versus scientists in the present and future, for both of the future intrinsic motivation variables. As in Study 1, full results can be found in the supplementary materials.

Finally, we examined expected income at age 30 as a control variable. Although business students expected to be making more than art students [$t(114) = 2.13$, $p < 0.05$, $d = 0.365$], ANCOVAs showed that this difference did not affect any of the above artist/business comparisons. Science students also expected to be making more than art students [$t(114) = 2.41$, $p = 0.018$, $d = 0.458$], while not differing from business students.

Brief discussion

Study 2 replicated the main patterns from Study 1, showing that whereas art students at present report more intrinsic and less external *current* career motivation than do business students (hypothesis 1), these differences do not exist when their motivations are examined at a *longer-term* time scale (hypothesis 2), measured in terms of both future aspirations and longer-term career motivations. As in Study 1, science students were again more intermediate in their positioning.

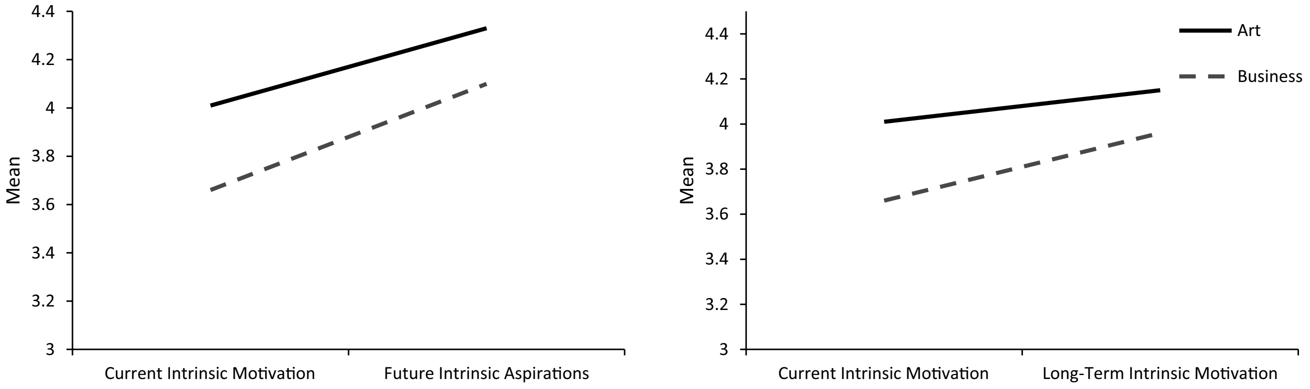

Fig. 2 Study 2 current and future intrinsic variables means for art and business majors

Study 3

However, Study 2 still contained important limitations. First, like Study 1, it only examined college students, asking them about their purported major areas of study. This population may not accurately represent the population of actual working artists and scientists. Second, Study 2 only assessed long-term motivation in two ways, by measuring both future aspirations and long-term career motivations. In Study 3 we corrected the first problem by using a sample of mTurk workers, who were carefully screened such that we included only those currently working as fine artists/musicians, as business or management workers, or as physical scientists. We addressed the second problem by adding a third measure of longer-term future motivations, in addition to retaining the future aspiration and long-term career motivation measures of Study 2. This allowed us to directly assess participants' vision of why they would be working, far in the future.

Method

Participants and procedure

Initial participants were 1591 mTurk workers. They answered a single pre-screening question for the "Career motivation study," concerning "your current primary occupation." The selections were: Unemployed or primarily mTurk; Business owner or Business (i.e. accounting, finance, management, marketing); Fine Arts (i.e. drawing, sculpture, theater, dance); Music (i.e. performance, teaching, administrating); Physical sciences (i.e. biology, chemistry, mathematics, physics, meteorology); Service (i.e., retail, restaurant, personal services), Office (i.e. secretary, clerical, technical); Teacher (i.e. elementary, middle, secondary); Student (half-time or more); and Other. Participants who selected business, fine arts, music, or physical sciences were passed on to the main survey, eliminating 1443 participants. The final sample consisted of 139 mTurk workers: 40 in business, 46 in physical science, and 53 in fine arts or music. Sixty-nine participants were men and 70 were women, with a mean age of 35.18 and a mean reported income of $60,411. The three vocational groups did not differ on gender or age, but the business and science workers reported significantly higher income than the artists ($65,948 and $66,178 versus $49, 524, respectively). The workers receive $.50 for completing the main survey.

Measures

Current career motivation

Participants answered augmented versions of the items employed in Study 1, based on the goal assessment items of Sheldon and Elliot (1999). Participants read "now we'd like to ask you some questions about your motivation for the job you indicated earlier." They then read "why do you have this job?", followed by two statements describing intrinsic motivation ("Because of the enjoyment or stimulation the job provides you", and "because the job is enjoyable and interesting"). They also read two statements describing external motivation ("Because of the rewards, such as the high income, luxuries, or status, that it may produce" and "because I will get external rewards or recognition"). Composite intrinsic and external motivation variables were computed by averaging the two items in each case (alphas = 0.69 and 0.61, respectively).

Future aspirations

Participants completed the same six item measure of aspirations that was used in Studies 1 and 2 (alphas = 0.61 and

0.65, respectively, for the Intrinsic future aspirations and Extrinsic future aspirations variables).

Long-term motivations

As in Study 2, these two items concerned the longer-term “reasons *behind* the reasons,” phrased in the same way as before. Intrinsic and External long-term motivation scores were again computed from the available ratings.

Expected income and intrinsic motivation at age 60

Finally, participants were asked about “your career expectations for when you are 60 years old”. If you are older than 60, just answer for “near the very end of your career.” Specifically, participants were asked what income they expected to be making at age 60, and how much they expected to be enjoying their career when they are 60. We predicted that the business group would expect to feel equivalent levels of intrinsic motivation late in their careers, even as they expect to be making more money at age 60.

Results

Table 5 contains descriptive statistics and correlations for major study variables. Eight different one-way ANOVAs revealed significant omnibus differences for only the present-day motivation variables, as expected (for intrinsic motivation, $F(2,136) = 6.47$, $p < 0.002$, $\eta_{\mathrm{p}}^2 = 0.087$; for external motivation, $F\ (2,136) = 4.21$, $p = 0.017$, $\eta_{\mathrm{p}}^2 = 0.058$; for intrinsic future aspirations, $F\ (2,136) = 0.20$, $p = 0.822$, $\eta_{\mathrm{p}}^2 = 0.003$; for extrinsic aspirations, $F(2,136) = 0.40$, $p = 0.668$, $\eta_{\mathrm{p}}^2 = 0.006$; for long-term intrinsic motivation, F(2, 136) = 1.29, $p = 0.279$, $\eta_{\mathrm{p}}^2 = 0.019$; for long-term external motivation, F(2,136) = 0.95, $p = 0.390$, $\eta_{\mathrm{p}}^2 = 0.014$; for expected intrinsic motivation, F(2,136) = 2.17, $p = 0.118$, $\eta_{\mathrm{p}}^2 = 0.031$; for expected income, F(2,136) = 2.96, $p = 0.055$, $\eta_{\mathrm{p}}^2 = 0.042$). Table 6 contains the means for the eight motivation variables split by vocational group, and also contains coefficients indicating group mean differences. Again, supporting our first hypothesis, the artists were higher than business people in current intrinsic motivation, although they were not significantly lower in external motivation. Scientists were equal to business people in both types of current

Table 5 Study 3: Descriptive statistics and correlations

Variable	Mean	SD	2	3	4	5	6	7	8
1.Current intrinsic motivation	3.87	0.84	−0.19	0.37	0.14	0.33	0.10	0.50	−0.23
2.Current external motivation	3.14	0.99		0.03	0.40	0.29	0.56	−0.03	0.25
3. Future intrinsic aspirations	3.78	0.74			0.36	0.41	0.04	0.43	0.01
4. Future extrinsic aspirations	3.31	0.82				0.43	0.43	0.16	0.07
5.Long-term intrinsic motivation	3.55	0.98					0.42	0.27	0.05
6.Long-term external motivation	3.14	1.06						0.07	0.04
7. Age 60 expected intrinsic motivation	3.76	0.97							0.00
8. Age 60 expected income	117 K	105 K							

For correlations ≥ 0.21, $p < 0.01$. For correlations ≥ 0.15, $p < 0.05$

Table 6 Study 3: variable means and standard deviations split by group

Variable	Art (N = 55)	Business (N = 47)	Science (N = 47)
Current intrinsic motivation	4.18_a (0.77)	3.63_b (1.10)	3.73_b (0.80)
Current external motivation	2.93_a (1.08)	3.50_a (1.08)	3.07_a (0.89)
Future intrinsic aspirations	3.82_a (0.83)	3.72_a (0.77)	3.79_a (0.69)
Future extrinsic aspirations	3.39_a (0.78)	3.28_a (1.02)	3.25_a (0.75)
Long-term intrinsic motivation	3.67_a (1.03)	3.35_a (1.03)	3.60_a (0.87)
Long-term external motivation	3.20_a (1.02)	3.26_a (1.01)	2.97_a (1.15)
Age 60 expected intrinsic motivation	3.77_a (1.0)	3.74_a (0.99)	3.45_a (1.0)
Age 60 expected income	105 K_a (45K)	130 K_a (37K)	122 K_a (42K)

Means not sharing subscripts are significantly different from each other at $p < 0.05$. Also, Ns are smaller for the age 60 analyses (40, 40, and 39) motivation, and equal to artists in current external motivation.

To formally test our second hypothesis, we conducted 3 (Student group: Art, business, or science) × 2 (Type of motivation: Intrinsic or extrinsic) × 2 (time frame: Present or future) ANOVAs on the three groups, with repeated measures on the latter two factors. Three analyses were conducted: one for the intrinsic and extrinsic aspiration measures, one for the intrinsic and external long-term motivation measures, and one for the measure of motivational expectations at age 60 (new to Study 3). In the latter analysis we included "current income" (standardized) in the analysis, to parallel the new item's focus on "expected income at age 60." "Current intrinsic motivation" was retained for comparison to "expected intrinsic motivation at age 60."

In the first analysis involving intrinsic and extrinsic future aspirations, the expected 3-way interaction was significant, replicating Studies 1 and 2 ($F(2,136) = 9.11$, $p < 0.001$, $\eta_p^2 = 0.118$). The effect was larger when the comparison was confined to the artist versus businessperson groups, $F(1,91) = 17.00$, $p < 0.001$, $\eta_p^2 = 0.157$. In the second analysis involving long-term motivations, the expected 3-way interaction was again significant, $F(2,136) = 4.32$, $p = 0.015$, $\eta_p^2 = 0.060$. The effect was slightly stronger when only artists and business people were contrasted, $F(1,91) = 5.10$, $p = .026$, $\eta_p^2 = 0.053$). In the third analysis, contrasting current intrinsic motivation and current income to age 60 expected intrinsic motivation and age 60 expected income, the 3-way interaction was again significant, $F(2,108) = 2.86$, $p = 0.061$, $\eta_p^2 = 0.050$ (N was smaller because of missing current income data). The effect became stronger when the artists were contrasted with the business people, $F(1,71) = 6.46$, $p = 0.013$, $\eta_p^2 = 0.083$, suggesting that this particular contrast accounts for the pattern. Figure 3 again graphs the intrinsic motivation effects separately for the three future intrinsic motivation variables, comparing artists and business persons only. As in Studies 1 and 2, full results can be found in the supplementary materials.

General discussion

Ours was the first study to directly compare the career motivations of artists and business people. Our three studies confirmed the common intuition that artists are more motivated by their intrinsic love of the artistic process, whereas business persons are more motivated more by money and other external factors (hypothesis 1). This basic pattern was observed using the prototype item measures of Study 1, the multi-item measures of Study 2, and the combined approach of Study 3. The pattern was also observed for both direct questions about career motivation (Study 1 and Study 3), and for questions about students' self-generated career-relevant goals (Study 2).

In addition, we also found good evidence to support hypothesis 2, which stated that in a longer-term frame of reference, the motivational differences between artists and business people are diminished or disappear. Study 1 found that the business students did not differ from the artists in the strength of their intrinsic future aspirations (for growth, intimacy, and community). Thus, at least when it came to intrinsic ideals for the future, business students were no less "organismically congruent" than art students. This may help them to cope with the motivational difficulties they may face in the present, although this buffering explanation requires testing. Further supporting our second hypothesis, Study 2 found that the longer-term motivations of business and art students did not differ; both viewed their current career goals as serving intrinsic and external long-term motivations to an equal extent.

In short, business students and professionals believe that they can have it all, at least in the end: both intrinsic and external motivation. But are they correct? As discussed

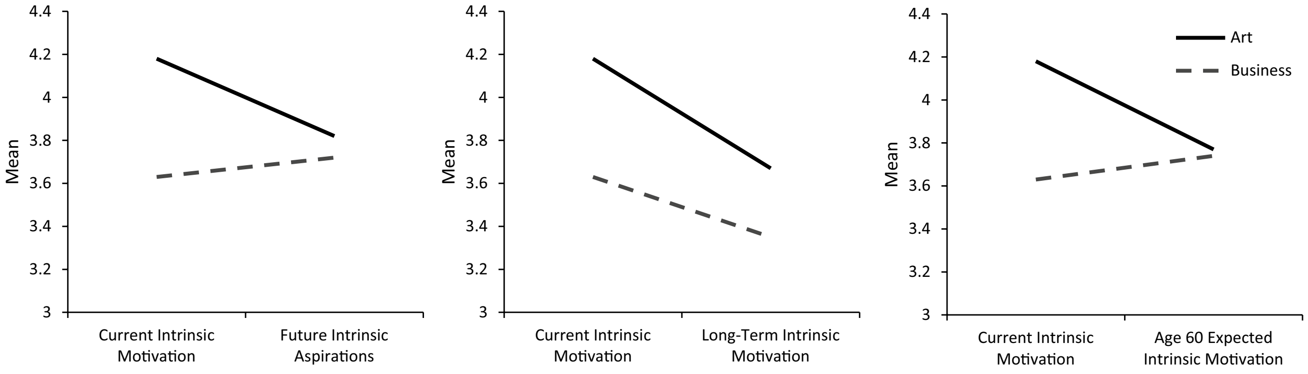

Fig. 3 Study 3 current and future intrinsic variables means for art and business majors

earlier, external motivation tends to undermine intrinsic motivation, suggesting that the high/high combination may turn out to be unstable. The current cross-sectional studies cannot speak directly to this question, but we can offer some relevant observations. Amabile et al. (1994) suggested that one way the two motivations can co-exist is by operating in sequence rather than in tandem. Moments of creative inspiration are naturally followed by concerns for publicizing and promoting the work; this can be seen as important and essential, so that one may continue to experience the moments of inspiration that one loves (Amabile 1996). In the language of SDT, people have a propensity to internalize their formerly external motivations, such that "non-fun" behaviors are nevertheless enacted willingly and volitionally. Indeed, this is one good way of conceptualizing psychological maturity: that it involves the ability to do, cheerfully and without complaining, what one must do (Sheldon 2009). Still, it seems likely that the strong external motivations of business students will present them with significant challenges during their careers.

However, it is also true that intrinsic motivation can only be undermined when there is intrinsic motivation in the first place (Ryan and Deci 2017). Many business students may start out without much intrinsic motivation for their vocation, and thus, may have nothing to lose. Furthermore, through perseverance, they may eventually find business career paths that are more enjoyable, thereby creating intrinsic motivation where there was none initially. Indeed, this seems to have been precisely the expectation of business participants in our three studies. Again, however, this may prove more difficult than they expect, as over time they begin to lose touch, in the manner of Ebenezer Scrooge, with the intrinsic aspirations they originally espoused (Sheldon and Krieger 2014). Still, from SDT's organismic perspective, the potential for adaptation and growth always remain within human nature, and thus self-transformation (again, in the manner of Scrooge) is always possible.

Future research comparing artists and business persons could consider a variety of interesting questions. For example, what personality dispositions underlie career motivations, which in turn affect career choice? Such dispositions could include trait or value variables. Future research might also consider the counselling or clinical implications of the findings. Counsellors might bear in mind the possibility that business students are "putting off" intrinsic motivations, while still expecting to have them in the end. This might lead career counsellors to challenge such students' assumptions, or to help them chart a path that really does become increasingly intrinsic over time. Perhaps, those with more extrinsic professions might also be able to find and engage in intrinsic activities outside of one's professional life. These are all interesting questions for which we encourage future research.

Before concluding, it is worth considering the results concerning the physical science participants. In a way, these individuals seemed to have the best of both worlds from a motivational perspective. They experience strong intrinsic motivation, nearly at the level of the artists. They also have considerable external motivation, as much as the other two groups. These patterns held both at the "current motivation" and the "long-term motivation" level of measurement. Furthermore, physical scientists expect to do well, financially, in their careers (as demonstrated in Study 1 and 3), whereas the artists do not hold such an expectation. Overall, the scientists tended to be located between the more extreme art and business groups, and rarely occupied the extremes themselves.

These studies have obvious limitations. One is the merely cross-sectional design, which greatly limits the ability to draw causal inferences. Longitudinal studies, of the process by which motivations change and evolve over time, would be desirable, although they still do not meet the standard of experimental studies. Another limitation is the samples only come college students and mTurk; future studies will need to evaluate the generalizability of the pattern to workers in various sub-fields of their disciplines, and at different career stages within those disciplines. Also, the data were only self-report in nature. Unfortunately, social desirability issues can affect motivation ratings (Antin and Shaw 2012); for example, it may be counter-normative for artists to admit to external motivations, or business students to intrinsic ones. Thus, it would be beneficial to corroborate the findings with observer reports regarding participant motivation. Another limitation is that we cannot rule out an important potential alternative explanation of our finding: that rather than career motivations prompting career selections, as we have assumed, it could be that mere exposure to the career training context *creates* the pattern of motivation, where it did not initially exist. While training contexts doubtless affect peoples' motivations (Sheldon and Krieger 2007), we doubt this can completely explain the effects we found. For example, Holland vocational theory is built on the assumption that motivations affect career choices (Holland 1997), prior to any effects that career experience has upon later motivations.

Despite these limitations, it is still worth noting that our study is the first to directly compare artists and business-people in terms of their intrinsic and extrinsic motivations. Our data support the common idea that in their careers, artists are more interested in intrinsic values such as self-exploration whereas business people are more interested in extrinsic values such as monetary possessions. Despite that, our data suggests that though the current motivation of both vocational groups differs, both groups strive for intrinsic rewards later. This finding is consistent with Self-determination Theory's concept of organismic congruence and lends credence to the idea that despite the pull of external forces, we all want to be intrinsic in the end.

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